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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,280	08/17/2001	Jonas Ohlsson	2380-486	1170

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EXAMINER

FOX, BRYAN J

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/931,280	Applicant(s) OHLSSON ET AL.	
	Examiner Bryan J. Fox	Art Unit 2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 6-10, 12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-10, 12, 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 2, 2005 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muszynski (US006009328A) in view of Jou et al (US006546248B1) and Tiedmann, Jr. et al (US006246673B1).

Regarding claim 1, Muszynski discloses that an inter-MSC soft handoff with signal diversity combining is initiated when the MS moves from the coverage area of the serving BS 24 connected to the first MSC 14 to the coverage area of a second BS 22 connected to a second MSC 12 and the MS pilot signal quality measurements indicate that a soft handoff to the second BS 22 is appropriate. Diversity signal combining is initiated (see column 9, lines 15-59), which reads on the claimed, "for use in a telecommunications system having a source base station and a destination base station where a specified mobile station establishes a connection with the source base station, a method comprising: upon receipt of a first measurement report from the specified mobile station, initiating at the destination base station a preliminary portion of a handover sequence for the specified mobile station." The inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed, "upon receipt of a second measurement report from the specified mobile station, initiating at the destination base station another portion of a handover sequence for the specified mobile station." Muszynski fails to expressly disclose that the first measurement report from the specified mobile station and the second measurement report from the specified

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station include differing values of a signal quality measurement of a pilot signal from the destination base station as received by the specified mobile station.

In a similar field of endeavor, Jou et al disclose the PSMM contains a number of different pilots (see column 8, lines 35-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Muszynski with Jou et al such that the PSMM includes at least both pilot signals in order to provide the complete information of the conditions at the mobile station and assist in choosing the most effective operation for the mobile station. The combination of Muszynski and Jou et al fails to expressly disclose the preliminary portion of a handover sequence including uplink radio synchronization with respect to the specified mobile station.

In a similar field of endeavor, Tiedmann, Jr. et al disclose a pilot strength measurement report triggers the target base station to fix timing error between it and the mobile station in the forward link (see column 17, lines 28-49).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Muszynski and Jou et al with Tiedmann, Jr. et al to include the above fixing the timing error in order to provide a faster transition as suggested by Tiedmann, Jr. et al (see column 7, lines 34-49).

Regarding claim 9, Muszynski discloses that an inter-MSC soft handoff with signal diversity combining is initiated when the MS moves from the coverage area of the serving BS 24 connected to the first MSC 14 to the coverage area of a second BS 22 connected to a second MSC 12 and the MS pilot signal quality measurements indicate

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that a soft handoff to the second BS 22 is appropriate. Diversity signal combining is initiated (see column 9, lines 15-59), which reads on the claimed, "a telecommunications system comprising a control node and a destination base station, wherein: the control node initiates at the destination base station, upon receipt of a first measurement report from the specified mobile station, a preliminary portion of a handover sequence for the specified mobile station." The inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed, "upon receipt of a second measurement report from the specified mobile station, initiates at the destination base station another portion of a handover sequence for the specified mobile station." Muszynski fails to expressly disclose that the first measurement report from the specified mobile station and the second measurement report from the specified station include differing values of a signal quality measurement of a pilot signal from the destination base station as received by the specified mobile station.

In a similar field of endeavor, Jou et al disclose the PSMM contains a number of different pilots (see column 8, lines 35-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Muszynski with Jou et al such that the PSMM includes at least both pilot signals in order to provide the complete information of the conditions at the mobile station and assist in choosing the most effective operation for the mobile station. The combination of Muszynski and Jou et al fails to expressly disclose the preliminary portion of a handover sequence including uplink radio synchronization with respect to the specified mobile station.

In a similar field of endeavor, Tiedmann, Jr. et al disclose a pilot strength measurement report triggers the target base station to fix timing error between it and the mobile station in the forward link (see column 17, lines 28-49).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Muszynski and Jou et al with Tiedmann, Jr. et al to include the above fixing the timing error in order to provide a faster transition as suggested by Tiedmann, Jr. et al (see column 7, lines 34-49).

Claims 2, 4, 6-8, 10, 12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muszynski in view of Jou et al.

Regarding claim 2, Muszynski discloses that an inter-MS soft handoff with signal diversity combining is initiated when the MS moves from the coverage area of the serving BS 24 connected to the first MSC 14 to the coverage area of a second BS 22 connected to a second MSC 12 and the MS pilot signal quality measurements indicate that a soft handoff to the second BS 22 is appropriate. Diversity signal combining is

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initiated (see column 9, lines 15-59), which reads on the claimed, "for use in a telecommunications system having a source base station and a destination base station where a specified mobile station establishes a connection with the source base station, a method comprising: upon receipt of a first measurement report from the specified mobile station, initiating at the destination base station a preliminary portion of a handover sequence for the specified mobile station." The inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed, "upon receipt of a second measurement report from the specified mobile station, initiating at the destination base station another portion of a handover sequence for the specified mobile station," and, "the preliminary portion of the handover sequence involving an operation between the destination base station and the specified mobile station that are more time critical than operations performed during the another portion of the handover sequence." Muszynski fails to expressly disclose that the first measurement report from the specified mobile station and the second measurement report from the specified station include differing values of a signal quality measurement of a pilot signal from the destination base station as received by the specified mobile station.

In a similar field of endeavor, Jou et al disclose the PSMM contains a number of different pilots (see column 8, lines 35-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Muszynski with Jou et al such that the PSMM includes at least both pilot signals in order to provide the complete information of the conditions at the mobile station and assist in choosing the most effective operation for the mobile station.

Regarding claim 4, the combination of Muszynski and Jou et al discloses that BS 22 will further start demodulating the CDMA uplink connection after the first PSMM (see Muszynski column 9, lines 16-45), which reads on the claimed, "upon receipt of the first measurement report from the specified mobile station, a control node allocates uplink resources for the specified mobile station to communicate with the destination base station."

Regarding claim 6, the combination of Muszynski and Jou et al discloses that BS 22 will further start demodulating the CDMA uplink connection after the first PSMM in response to a handoff request from the MSC (see Muszynski column 9, lines 16-45), which reads on the claimed, "the preliminary portion of the handover sequence comprises...sending an uplink setup request message from a control node to the destination base station."

Regarding claim 7, the combination of Muszynski and Jou et al discloses the inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has

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weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed, “the another portion of the handover sequence comprises remaining events of a conventional handover sequence which were not included in the preliminary portion of the handover sequence.”

Regarding claim 8, the combination of Muszynski and Jou et al discloses upon termination of the soft handover the MSC sends a termination message via the base stations to the MS and signal diversity combining is stopped (see column 10, lines 6-54), which reads on the claimed, “the another portion of the handover sequence comprises... transferring user data between the control node and the destination base station,” wherein the termination message would need to include identifying information of the terminal, which reads on the claimed, “user data.”

Regarding claim 10, Muszynski discloses that an inter-MSC soft handoff with signal diversity combining is initiated when the MS moves from the coverage area of the serving BS 24 connected to the first MSC 14 to the coverage area of a second BS 22 connected to a second MSC 12 and the MS pilot signal quality measurements indicate that a soft handoff to the second BS 22 is appropriate. Diversity signal combining is initiated (see column 9, lines 15-59), which reads on the claimed, “telecommunications system comprising a control node and a destination base station, characterized in that: the control node initiates at the destination base station, upon receipt of a first

measurement report from the specified mobile station, a preliminary portion of a handover sequence for the specified mobile station.” The inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed, “upon receipt of a second measurement report from the specified mobile station, initiates at the destination base station another portion of a handover sequence for the specified mobile station,” and, “the destination base station, in performing the preliminary portion of the handover sequence, performs operations which are more time critical than operations included in the another portion of the handover sequence.” Muszynski fails to expressly disclose that the first measurement report from the specified mobile station and the second measurement report from the specified station include differing values of a signal quality measurement of a pilot signal from the destination base station as received by the specified mobile station.

In a similar field of endeavor, Jou et al disclose the PSMM contains a number of different pilots (see column 8, lines 35-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Muszynski with Jou et al such that the PSMM includes at least

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both pilot signals in order to provide the complete information of the conditions at the mobile station and assist in choosing the most effective operation for the mobile station.

Regarding claim 12, the combination of Muszynski and Jou et al discloses that BS 22 will further start demodulating the CDMA uplink connection after the first PSMM (see Muszynski column 9, lines 16-45), which reads on the claimed, "upon receipt of the first measurement report from the specified mobile station, a control node allocates uplink resources for the specified mobile station to communicate with the destination base station."

Regarding claim 14, the combination of Muszynski and Jou et al discloses that BS 22 will further start demodulating the CDMA uplink connection after the first PSMM in response to a handoff request from the MSC (see Muszynski column 9, lines 16-45), which reads on the claimed, "the preliminary portion of the handover sequence comprises...receiving at the destination base station an uplink setup request message sent from the control node."

Regarding claim 15, the combination of Muszynski and Jou et al discloses the inter-MSC soft handoff with signal diversity combining is terminated if the MS leaves completely the coverage area of one of the participating BSs and penetrates deeply into the coverage area of the other BS and therefore the pilot signal coming from BS 24 has weakened below a predetermined threshold in the previously described inter-MSC soft handoff configuration, which the MS informs the MSC via a pilot signal quality measurement report, and the inter-MSC soft handoff with diversity signal combining is terminated (see column 9, line 60 – column 10, line 30), which reads on the claimed,

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"the another portion of the handover sequence comprises remaining events of a conventional handover sequence which were not included in the preliminary portion of the handover sequence."

Regarding claim 16, the combination of Muszynski and Jou et al discloses upon termination of the soft handover the MSC sends a termination message via the base stations to the MS and signal diversity combining is stopped (see column 10, lines 6-54), which reads on the claimed, "the another portion of the handover sequence comprises...transferring user data between the control node and the destination base station," wherein the termination message would need to include identifying information of the terminal, which reads on the claimed, "user data."

Regarding claim 17, the combination of Muszynski and Jou et al discloses that the control node is a MSC (see figure 1), which reads on the claimed, "the control node is a radio network control node of a radio access network."

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 4, 6-10, 12 and 14-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Fox whose telephone number is (571) 272-7908. The examiner can normally be reached on Monday through Friday 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bryan Fox
February 27, 2006


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER